

APT Center holds Ribbon Cutting Event

The Advanced Platform Technology (APT) Center held its Ribbon Cutting Event on Thursday, May 11, 2006 at the Louis Stokes Cleveland Veterans Affairs Medical Center. The new offices are shared space between the APT and Functional Electrical Stimulation (FES) Centers of Excellence.



Figure 1. Ribbon Cutting in the new offices (left to right): Dr. Murray Altose, Chief of Staff, Dr. Ronald Triolo, Executive Director, APT Center, Dr. Neal Peachey, Chief of Research, and Dr. William Montague, Director, Louis Stokes Cleveland Veterans Administration Medical Center

The ceremony held in conjunction with National Research Week began with a Ribbon Cutting of the new APT and FES offices followed by presentations from Mr. William Montague, Medical Center Director, Dr. Murray Altose, Chief of Staff, Dr. Neal Peachey, Research Chief, and Dr. Ronald Triolo, Executive Director, APT Center, and VA Rehabilitation Research Career Scientist and Associate Professor of Orthopedics & Biomedical Engineering at Case.



Figure 2. APT Center employees enjoyed a specially decorated cake during the ribbon cutting event.

The APT Center is a VA Office of Rehabilitation Research & Development Center of Excellence awarded January 2005 in partnership with Case Western Reserve University. Clinicians, investigators, and staff work together to bring the clinical needs of veterans to the attention of the engineers and scientists pursuing new and emerging technologies in order to apply them for the purposes of reducing disability, improving daily functions, and enhancing quality of life. This is a technical center that designs and builds prototype devices that are clinically meaningful. The APT Center supports rehabilitation research by adapting cross-cutting foundational technical platforms to meet specific needs for advanced prosthetic systems, sensory aids, and other clinical applications. Most grant-supported research concentrates on system development, pre-clinical testing, and clinical studies. The APT Center focuses on other aspects of the product development cycle, specifically 1) the identification of user needs, 2) the generation of new concepts (innovation), and 3) the development of new technologies through prototype and production stages. By shifting focus, the center staff are able to provide support to other Centers of Excellence when they need novel technologies or reach the point of technology transfer.

Example capabilities include: 1) Microelectromechanical systems (MEMS) design and fabrication, 2) neural interfacing, 3) polymer and bioactive material development, 4) rapid prototyping, 5) system validation and design control, and 6) circuit and software design.

Example technologies include: 1) EMG, EEG, ENG signal acquisition and processing, 2) Implantable sensing, recording, stimulating, and communication devices, 3) Pressure, volume, acceleration, and other physical or chemical sensors, 4) Portable computer controlled systems for surface and percutaneous stimulation, and 5) Stimulating and recording electrodes.



Figure 3. Dr. Ronald Triolo at the APT Center Ribbon Cutting Ceremony.

At the ceremony, Dr. Triolo also announced that the APT Center was awarded a National Institute of Health (NIH) grant, lead by Associate Director of design and prototyping, Dustin Tyler, Ph.D. It is an R21, two-year exploratory grant for the development of a stimulus responsive, mechanically dynamic, nano-composite material. The nano-composite material was initially conceived by Drs. Christoph Weder and Stuart Rowan of the Macromolecular Engineering Department at Case Western Reserve University. The new grant is a direct result of expanded collaborations between the Biomedical Engineering and Macromolecular Engineering departments at Case and the VA.